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Danthonia



Volume 3 Number 2 September 1994

NEWSLETTER OF THE AUSTRALIAN NETWORK FOR PLANT CONSERVATION

Indonesian Plant Conservation Network Formed

The formation of the Indonesian Network for Plant Conservation (INetPC) was announced recently at a meeting in Bogor of leading plant conservationists from around the world. The Australian Network for Plant Conservation is happy to welcome this new initiative for conservation in our region.

In the report Rare or Threatened Plants in Cultivation in Australasia, published in 1989 by the Australian National Parks and Wildlife Service, the authors, Lyn Meredith and Mark Richardson, in their recommendations, called on the "botanic garden community in Australia to develop a regional role in conservation matters relevant to the South Pacific and South-East Asian regions". Representatives from Indonesia were among the overseas participants at the 'Protective Custody' conference, held in Canberra in March 1991 where delegates "declared their intent to... participate actively in regional and international plant conservation programs...". Kebun Raya Indonesia, (the national botanic gardens of Indonesia), has been a member of ANPC since its inception.

In 1992 a conference on 'A Strategy for Indonesian Flora Conservation' was held at Kebun Raya Bogor. Numerous Australian delegates were invited to attend (see ANPC Newsletter vol.1, no.3) and later the National Office of ANPC prepared a proposal for an Indonesian network, based on the 1991 Proposal for an Australian Network for Plant Conservation. This was further developed by Dr Suhirman, Director of Kebun Raya Indonesia, and Janine Pfeiffer, and the Network was launched at a seminar at Bogor in July 1994.

The Network is intended primarily to facilitate communication and co-operation between conservation organisations, groups, institutions and individuals working in Indonesia and their international counterparts. It is intended that the Network will provide the following services; a quarterly newsletter, Eksplorasi, a membership database, a resource library, annual conferences and seminars and informal meetings. A national office has been set up at Kebun Raya Bogor and

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EDITORIAL

Our (nearly) new logo.

You may have noticed that the ANPC Logo at the head of this issue of Danthonia looks slightly different from last time. Alex Godfrey of Green Words, Canberra, has designed a set of 'corporate stationery' for ANPC and in the process has tidied up the logo that was 'designed' by us in a hurry before the Protective Custody Conference in 1991. We hope you like our more professional look!

This issue includes the first of a series of Endangered Flora Fact Sheets that is being prepared by Jeanette Mill. Readers who would like an extra looseleaf copy of the Fact Sheet should contact the ANPC National Office.

Mark Richardson's article on page one describes the background to the formation of our associated network, INetPC, in Indonesia. Turn to page 14 for information on how to join INetPC or buy their publications.

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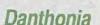
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How to write for Danthonia

At ANPC we are anxious to hear from you. We want to know what conservation work you are involved with and more importantly, we want other Network members to know what you are doing - that's what networking is all about.

Write to us in any way you wish. If you have access to a word processor and can send your work on a disk, please do so. Use your favourite word processing program such as Word for Windows or Word Perfect and also save the material as 'text'. We will then be able to transfer it into a format that our own system can 'read'. Don't bother to give your text any particular style or format; we will do that when we transfer it to the Danthonia format.

But if you don't have access to computer technology, write to us any way. No matter how long an article, or how short your letter, we will find space for it if we can. There is a form enclosed with this issue to remind you to write for your conservation colleagues



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Advisory Committee

Dr David Aldous
Dr Tony Brown
Dr Mick Brown
Mr Geoff Farnell
Mr Stephen Harris
Ms Katrina Jensz
Dr David Kay
Mr Ed McCalister
Ms Margaret Moore
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a national co-ordinator has been employed. The Indonesian Network for Plant Conservation consists of an Advisory Board, a Facilitating Office and Members, and this structure of course resembles that of ANPC. The Advisory Board supports the Facilitating Office in developing and maintaining co-operation among INetPC members, conducting fund raising, and in operating the Network. The Board consists of the Chairman of the Indonesian Institute of Sciences, the Director General of the Forest Conservation and Nature Protection Agency and the Chairman of the Indonesian Forestry Society. INetPC Members are private and governmental organisations, universities and individuals.

The Role of Flora in the World **Economy and its Conservation**

The Seminar was held in Bogor this July. Delegates were invited from around the world and included Glenn Wightman (Conservation Commission of the Northern Territory), Carrick Chambers (Royal Botanic Gardens, Sydney) and Mark Richardson (ANPC), representing Australia. Their attendance was supported by the Indonesian Forestry Community. Delegates considered the economic importance of flora and its sustainable use for the people of the world and the preservation of the natural environment. Specifically, the participants discussed the unique role of botanic gardens in plant resource conservation and utilization. During the seminar the participants highlighted the international significance and importance of Kebun Raya Indonesia, recognising that it maintains one of the largest collections of living plant resources in the world and is recognised as a leading institution of global importance for the study and conservation of flora.

Kebun Raya Indonesia (KRI) has identified the need to concentrate its energies to undertake two priority strategic actions; namely, flora conservation, and the study of flora utilization to support the Indonesian economy. In order to carry out these actions effectively, KRI seeks support for its programs in research, exploration, collection and conservation of plants of actual or potential economic importance to Indonesia, coupled with financial and other human and physical resources to build its institutional capacity to become increasingly effective in these vital roles. Assistance in its efforts to build on existing co-operation between institutions and individuals active in the study, conservation and use of plant resources in Indonesia is also sought. KRI is already involved in a range of projects relating to the conservation and promotion of the Indonesian flora. Through the Pelestarian Flora project, explorations have been conducted to the outer islands, resulting in thousands of additional plant collections.

Co-operation was a keynote of the July Seminar; cooperation between KRI and the Indonesian Forestry Society (MPI) resulted in this seminar and the 1992 Conference. A memorandum of understanding for co-operation between ANPC and the new Indonesian Network for Plant Conservation has been prepared and a co-operative training effort is being developed between KRI and Botanic Gardens Conservation International (BGCI) to document and inventory KRI's expanding collection and (INetPC) which is based at KRI. Glenn Wightman of the Northern Territory Conservation Commission (an ANPC member) has been working with KRI to produce ethnobotanical documentation of traditional plant knowledge from villages in West Java.

Since the establishment of INetPC, the National Office of ANPC has sought assistance from Australia's Overseas Service Bureau to provide an Australian volunteer to work with the INetPC co-ordinator over a two year period and to aid the development of INetPC. ANPC is also applying to the Australian Centre for International Agricultural Research for funding to cover the volunteer's wages.

INDONESIA



SPECIES PROFILE

Cynanchum elegans -White-flowered Wax Plant

Maria Matthes and Sharon Nash NSW National Parks and Wildlife Service

ynanchum elegans (Benth.) Domin., is an endangered rainforest climbing plant in the family Asclepiadaceae. It is coded 3E in ANZECC (1993) and 2EC- in Briggs and Leigh (1988). The new code will be

3ECi (unpub.).

NSW National Parks and Wildlife Service's Central Region has written a Conservation Research Statement and Species Recovery Plan for C. elegans. The Species Recovery Plan is currently being implemented through the Australian Nature Conservation Agency's Endangered Species Program.

The species is currently known to exist as isolated populations in five locations in eastern NSW. The total population is estimated at about 1000 plants. The known northern limit is at Woko National Park in the Manning Valley and the southern limit is at Ooaree Creek, Rose Valley in the Illawarra region. The other localities are: the Cumberland Plain, Western Sydney; the Hunter region; and the Great Lakes area.

Until 1986 C. elegans was only known from three collections in the National Herbarium, none of which provided detailed locations. Since then over thirty small populations have been located (many thanks to Anders Bofeldt, Mark Robinson and Steve Griffith). Two of the three original collections have been relocated.

C. elegans occurs in a variety of vegetation communities on different lithologies and soil types. The majority of populations occur in dry rainforest on volcanic rocks. It has also been recorded in littoral rainforest, open forest, scrub and ecotones between the types and on shales and sand.

The history of land use along the east coast of Australia subjected the habitat of C. elegans to extensive cattle grazing and timber-getting and in the Illawarra, coal and basalt extraction.

The Western Sydney and Illawarra populations exist mostly in small, heavily degraded remnants on freehold or council owned land, none are conserved. The populations in the Hunter region occur in degraded remnants on unconserved land. North of the Hunter region most populations are protected by the National Parks and Wildlife Service.

C. elegans has a mostly fissured corky bark and stem up to 10 m long and 2.5 cm thick. The leaves are opposite and exude a milky sap when damaged. The flowers are white, tubular and occur in cymo-umbels. The fruit is a pointed follicle, containing up to 25 seeds.

Flowering occurs from about August to May and fruiting from about December to August, with seasonal variation. Fruit production is extremely variable both between and within populations. Some populations appear to produce no fruit, while others produce from a few to hundreds of fruit.

Mark Robinson observed larvae of the moth Dichromia quinqualis significantly defoliating C. elegans in the Illawarra region and the Woko National Park populations.

Another unidentified insect larvae has been observed by Robinson and Matthes in the fruit of C. elegans. This insect has been observed eating the seeds.

Little is known about the interactions between the insect grazer and predator and C. elegans and their role in the lifecycle of C. elegans.

Threatening Processes

The main threats to populations are:

- 1) The number of individuals in each population varies from about one to one hundred and fifty. These population sizes are estimates only because C. elegans suckers readily after disturbance and many vines may be from one plant. Local extinction of these extant populations is of concern as a single event may destroy all the individuals in a small isolated area.
- 2) The small size and isolation of the remnant bushland is limiting the suitable habitat for the natural colonisation and expansion of C. elegans. For example, on Kooragang Island, near Newcastle, two rainforest remnants were found with C. elegans present. These remnants occur in paddocks with a few other small remnants, the largest remnant being about 5 m X 2 m.
- 3) Weed invasion is affecting at least twenty one populations of C. elegans. The main

invasive weeds are: Moth Vine (Araujia hortorum), Lantana (Lantana camara), Cape Ivy (Delairea odorata), African Olive (Olea europea var africana) and Bridal Creeper (Myrsiphyllum asparagoides). These species are competing with C. elegans for resources and altering the natural habitat.



- 4) Housing developments have been proposed in some areas containing *C. elegans*. About ten stems have been damaged in the first stages of one development. It is the secondary effects of urban development, such as nutrient enrichment from detergents and fertilisers, increased weed species, rubbish dumping and increased use which are inevitably going to lead to the degradation of the habitat.
- 5) Grazing by cattle, rabbits, goats, pigs, horses, sheep and deer is affecting fourteen of the remnants containing *C. elegans*. There is evidence of young *C. elegans* suckers being trampled and chewed, as well as the rapid deterioration of the habitat.
- 6) At least five populations in the Illawarra are on land owned by coal and basalt extraction companies. Although the land is zoned other than for extraction, there have been discussions about proposals to rezone some of this land for

extraction in the next ten to fifty years.

7) Inappropriate fire management may threaten the populations of *C. elegans*. For the long term survival in the wild it will require new recruits to establish into the populations. Too frequent burning of the habitat may impede any recruitment as well as altering the habitat.

Biodiversity Benefits

The conservation of Cynanchum elegans is important in maintaining the biodiversity of all the organisms which play a role in the ecology of the habitats in which it occurs.

Of particular importance

1) Dry rainforest conservation is inadequate in southern Australia (Floyd, 1990), and none is conserved in the Illawarra or Western Sydney.

2) At least two nationally threatened plants and fifteen regionally threatened plants have been recorded at numerous populations of *C. elegans*. Some of these regionally significant plants have been proposed for national listing.

3) The Illawarra region is the known southern limit for over eighty rainforest species. A list of these is provided by Mills (1988).

4) The habitat of a population of *C. elegans* supports one of three colonies of the Greyheaded Flying Fox in the Illawarra region.

5) Conserving *C. elegans* will also conserve the habitat for *Dichromia quinqualis* and the unidentified predator during part of their lifecycles.

Based on this knowledge, a number of research and management actions have been proposed for the recovery of C. elegans.

Part Two:"Cynanchum elegans - the Recovery Process" will be prepared for the next issue of Danthonia.

Copies of the Conservation Research Statement and Species Recovery Plan are available from ANCA's Endangered Species Unit, or for further information please contact Maria Matthes or Sharon Nash, NSW NPWS, PO Box 95, PAR-RAMATTA, NSW 2124. Ph. (02)8957769 or Fax. (02)8957414.

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Disclaimer

The views expressed in this paper are those of the authors and do not necessarily represent those of the NSW National Parks and Wildlife Service, the Australian Nature Conservation Agency or the Australian Network for Plant Conservation.

MEMBERS ACTIVITIES

RARE PLANT WORK IN WESTERN AUSTRALIA, MAY 1994

Mark Richardson

Before attending the CSIRO Networking Conference in May (Danthonia, Vol 3 No 2) I was fortunate enough to visit two of the ANPC members in Perth.

The Threatened Flora Seed Centre is being set up by the Western Australian Department of Conservation and Land Management. It is located at the WA Herbarium. The Centre is a seed based germplasm collection of rare or threatened WA plants with an initial aim of capturing 75-80% of all genetic variation in each taxon. The Centre is utilizing medium term (4°C) storage to hold collections for 5-50 years and long term storage (-18°C to -22°C) for holding collec-

tions for longer than 50 years. It also maintains an integrated database on seed provenances and seed biology for each taxon and intends to link up with the WA database.

The top priority species for

the Centre are those that are rare or threatened plants and are susceptible to Phytophthora cinnamomi or aerial canker (Diplodima). Funding is being provided by the Australian Nature Conservation Agency for a five year dieback project.

It is intended that for each species, 100 viable seeds will be held with viability testing being conducted at the time of collection. When I visited the Centre in May it was already holding over 140 accessions which represented 66 species.

The work that is being done at the Rare Plant Laboratory at Kings Park and Botanic Garden is an excellent extension of that being done at the Seed Centre.



Kings Park and Botanic Garden is continuing research into the use of cryopreservation for the long term storage of both seed and plant tissue. This involves the storage of biological material at ultra low temperatures such as that of liquid nitrogen at -196°C (an earlier paper is in *Danthonia* Vol 1 Number 3). They have successfully



Kings Park Research Glasshouse

cryopreserved shoot-tips of the endangered Grevillea scapigera. The tissue has been thawed and grown to plantlets on regenerative medium. No genetic changes in the regenerated material were shown by tests done. Methods have also been developed for cryopreservation of mycorrhizal fungifrom twenty different orchids and species of Epacridaceae and cryostorage of the seed of 68 species has been performed.

It is estimated that using present procedures at least 40% of the rare or threatened species of Western Australiacouldbe maintained in long term storage. In addition to the cryostorage work being done Grevillea scapigera is being artificially propa-

Two views in the Threatened Flora Seed Centre

gated by tissue culture and being maintained as living stock in Kings Park's micropropagation unit. Material from this stock has already been used in two species recovery trials as a collaborative effort between researchers and the local community. The aim of this work is the recreation of genetically sound, self-sustaining populations of *G. scapigera*.

The value of having good contacts with other ANPC members has already been demonstrated with the Kings Park work. At one stage Grevillea scapigera was thought to be extinct until grafted material was found to be growing at the Royal Botanic Gardens in Sydney and was repropagated in Perth. The ANBG in Canberra is assisting with the cryopreservation work by supplying seed of native plants that are already known to be frost resistant. And where better than Canberra to learn about frost resistance!!

More on smoke

TATe have been asked to point out that the technique of using smoke to break seed dormancy (described in our last issue) was first described by researchers at Kirstenbosch Botanic Garden, South Africa. The discovery was reported in the South African Journal of Botany (Vol.56, pp.700-703, 1990) under the title 'Autecological studies on Audouinia capitata (Bruniaceae) I. Plant-derived smoke as a seed germination cue.' Further tests were carried out on a range of South African species and the results were published by Dr NAC Brown in The New Phytologist, vol. 123, pp 575-583, 1993 under the title 'Promotion of germination of fynbos seeds by plant-derived smoke'. A prediction that plants from areas in Europe, North America (California), South America (Chile) and Australia, which also have mediterranean climates and similar vegetation types were also likely to respond to smoke was also made by Brown, Botha, Kotze and Jamieson in Veld and Flora, the Journal of the Botanical Society of South Africa (vol. 79 [3], pp. 77-79, 1993).



Smoke application at King's Park

SGAP-North Shore

Letter from Val Wiseman, President, SGAP-North Shore Group (Sydney)

You asked members for suggestions as to how they might get involved at a local level and we thought you might like to hear about what we have been doing.

Firstly, we have compiled from the ROTAP list (1988) and the ANZECC list Threatened Australian Flora (June 1993) a list of rare or threatened plants in the Central

Coast Botanical Division of New South Wales where we are located. A set of photographs and descriptions of these plants is being put together and shown to our members and the descriptions are put in our newsletter. Anyone finding one of these plants in the bush is instructed to contact the National Parks and Wildlife Service and the local authority. I have spoken to two local conservation societies on the topic and urged a local authority to include descriptions in their Bushcare newsletter.

Secondly, within our Group we propagate some of these plants.

Thirdly, we have supported a local group protesting against a development on land on which there is an endangered plant species; we wrote a protest letter to the developer (a government agency) and sent copies to relevant bodies. We have improved our networking amongst local conservation groups and land managers. We would also support recovery plans.

Fourthly, from knowledge gained at the local level, we have been able to answer questionnaires from the Nature Conservation Council and the National Threatened Species Network; local examples can show what should happen on the larger scale.



WORKING GROUP REPORTS

Plant Translocation Working Group

Maria Matthes, Working Group Convenor

The Plant Translocation Working Group consists of six ANPC members who are volunteering their time to this group. The members are: Ken Atkins, WA; John Benson, NSW; Kingsley Dixon, WA; Louise Gilfedder, TAS; Manfred Jusaitis, SA; and Maria Matthes, NSW.

What is translocation?

The following definitions are those used by Botanic Gardens Conservation International (1994).

Translocation is the transfer of plant material from one part to another of the existing range of a species, either to existing or new sites and includes introductions, reintroductions and restocking.

Introduction is the establishment of a plant in an area in which it has never been known to occur.

Reintroduction is the release and management of a plant into an area in which it formerly occurred, but in which it is now extinct or believed to be extinct.

Restocking is a measure to increase population size or diversity by adding individuals to an existing population.

Why develop national guidelines for translocating native plant species?

The aim of conservation is the 'long term retention of natural communities under conditions which provide the potential for continuing evolution' (Frankel & Soule, 1981). Maintaining the genetic integrity of populations is essential for conservation.

As the plight of Australia's threatened plants and communities becomes more widely recognised, more people in the community - greening groups, community bushland groups, nurseries, horticulturists, individuals etc. - are wanting to play a role in the recovery process. For these projects to be successful overall there needs to be guidelines and support.

The translocation actions in recovery programs will be most likely to succeed when the ecology of the species is considered and the processes which made it threatened are alleviated. If the recovery process is rushed long term self-sustaining populations in the wild may not be possible.

In developing translocation guidelines many questions will need to be addressed by the working group. Some which were raised at the *Cultivating Conservation* Conference in Tasmania are:

* what factors need to be considered to ensure the long term success of translocations?;

- * how can phytosanitary problems associated with translocations best be handled?;
- * what are the ethical and philosophical problems with translocation?;
- * how do we maintain genetic diversity of local gene pools; and
- * what protocols are needed for co-ordination of plant recovery and involvement of

different groups?

What is the Working Group doing?

The working group has been compiling reference material on translocations, reintroductions, introductions and restocking of threatened plants and communities. This information will provide the group with some ideas for discussion at future meetings.

The plan at this stage, subject to funding, is to have a telephone meeting in about November. This meeting will be used to:

* determine the specific objectives of the working group;

* decide on the contents and structure of the guidelines;

* discuss ideas on translocations of plant species;

* discuss the above questions;

* raise potential problems and introduce healthy debate;

* decide what needs to be done for the next meeting; and

* establish a time plan for the project.

A face-to-face meeting is proposed to be held in South Australia early in the New Year. The first draft of the guidelines should be prepared prior to the final telephone meeting which will be held around mid 1995. A final draft will be finalised by the next ANPC conference to be held in September 1995. These guidelines will be sent to the Endangered Flora Network for ANZECC endorsement.

If any ANPC members have any translocation situations they would like considered by the working group or information to share then please contact Maria Matthes at The Cottage, 'Wangaruka', Jamberoo Rd, JAMBEROO NSW 2533.

Ph. (042) 360488 or Fax. (02) 8957414.

REFERENCES

Botanic Gardens Conservation International (1994) A Handbook for Botanic Gardens on the Reintroduction of Plants to the Wild (Draft). BGCI, Surrey, UK.

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Germplasm Storage Strategy Working Group

Kingsley Dixon, Convenor

The working group is now gearing into action to develop documentation for national guidelines on germplasm storage strategies.

The terms of reference for the group will be to recommend standards for short, medium and long-term storage of Australian species. A key issue will be addressing seed viability testing methods. At present seed testing is done on an ad hoc basis often relying on ISTA guidelines. Though these guidelines are suitable for some Australian taxa they are not appropriate for many taxa, particularly difficult to germinate species. The working group is to present a protocol as a standard for testing of Australian species. The working group is proposing to have a meeting of participants in November and notification of the meeting date and venue will be advised.



PLANT CONSERVATION TECHNIQUES COURSE

The ANPC, in association with the Canberra Institute of Technology, is organising a training course on the techniques of plant conservation next year. The course will run for 12 days from 27 March 1995

Aim of the Course:

The course is intended to provide participants with up to date information on the principles and practices of plant conservation, including both on site and off site techniques and the preparation of management plans. The course is strongly oriented towards practical work with both hands on and field work components and there will be a small student:teacher ratio.

Course Participants:

The course is aimed at people currently working in plant conservation as well as those wishing to expand their current knowledge including:

- conservation agencies
- botanical and zoological gardens
- community groups
- local government
- transport and power authorities
- industry

Texts and Notes:

A text and supplementary notes will be provided to participants.

Presenters:

The presenters for this course have all had extensive experience in plant conservation or associated fields in both the private and public sectors.

COURSE CONTENT

The Course is to cover the following topics:

- Fundamental principles in plant conservation
- Understanding rarity and threatening processes
- Biological strategies
- Conservation strategies
- Plant survey techniques
- •Plant monitoring techniques
- Plant management techniques
- Herbaria
- Botanic gardens, arboreta and private collections
- Research institutions
- Management plans

In addition, the course will include two field trips to visit the sites of endangered plants in the Canberra region. One of these will be to visit endangered Grevilleas near the Burrinjuck Dam and near Tumut. This will be an overnight trip with the group camping near Tumut at the Track Head camp of the Hume and Hovell overland track. Camping equipment (excluding sleeping bags) and all meals will be provided.

Course Cost: \$1500 for 12 days

Accommodation is not included but a range of accommodation is available in Canberra; a list will be sent to participants.

The number of participants will be limited to 15. If there is sufficient interest it is hoped that the course will be held again in 1996.

Further details and registration information will be mailed to ANPC members soon.

Networking with the Networks

ANPC not only aims to network with its members throughout Australia but with like-minded organisations in other parts of the world. We have already written elsewhere about the newest member of the plant conservation family, INetPC in Indonesia.

One of the first groups that we had dealings with, reflecting the original thinking of the organisers of the 1991 Protective Custody Conference, was Botanic Gardens Conservation International (BGCI). originally known as the Botanic Gardens Conservation Secretariat (BGCS). BGCS was launched by IUCN (The World Conservation Union) in 1987 after a number of meetings which recognised the potential of botanic gardens as a force for conservation and calling for a review of the ways in which botanic gardens could become more fully involved in the implementation of the World Conservation Strategy in particular for their functions as centres for education and information, and their capacity to carry out effective practical conservation. BGCS (it became BGCI in 1992) is now a global network of over 250 gardens in 55 countries and provides technical guidance, data and support to many more to enable them to meet their conservation challenges. BGCI has organised 3 international Congresses; the fourth will be held in Perth, WA, in September 1995 and ANPC will be assisting with its organisation. Dr Peter Wyse Jackson, Secretary General of BGCI was one of the

architects of the Australian Network for Plant Conservation, having helped write the original Proposal after the 1991 Conference. BGCI is a membership organisation and registered charity and works from offices at Kew in the United Kingdom.

Another of the 'architects' of ANPC was Don Falk, who was then Director of the Center for Plant Conservation (CPC) in the USA. CPC was created in 1984 to conserve the most critically endangered plants native to the United States. The Center's goal is to create a systematic, comprehensive national program of plant conservation, research and education within existing institutions, as a complement to the preservation of genetic diversity through habitat protection. Its central resource is a national collection of endangered native flora of the United States, maintained under protective cultivation at twenty-one regional gardens from Massachusetts to Hawaii. The Center is based at the Missouri Botanical Gardens in St. Louis, Missouri, and is an independent non-profit corporation. The national office provides co-ordination and support services, while the regional gardens maintain the living plants and carry out special projects. The Center works closely with national botanic, conservation and scientific organisations both in developing its overall strategy and in implementing particular programs. Don Falk left CPC in 1993 and his place as Director was taken by Dr Brien

Meilleur.

Don Falk is now Executive Director of the Society for Ecological Restoration (SER), a relatively new organisation dedicated to developing the art and science of restoring degraded habitats. SER is an international membership organisation of professionals and others committed to the repair and ecologically sensitive management of ecosystems. SER is a non-profit corporation with members in all North American states and provinces, the UK, Australia and other nations. The Australian Corresponding Secretary of SER is Ms Tein McDonald of Epping, NSW.

The Rare Plant Consortium was created in 1990 by a group of agencies, botanical gardens, universities and research laboratories in the north-west of North America (Washington, Oregon and British Columbia). Since that time the Consortium has grown to include over 60 member organisations representing five nations. In North America, members range from Alaska to California and from Ontario to Florida. International members include representatives from Sweden, the United Kingdom and the ANPC from Australia.

For further information and contact addresses for any of these associated groups, please contact the ANPC National Office.



PROFILES

The ANPC Advisory Committee

In the original Proposal for an LAustralian Network for Plant Conservation it was mooted that the network should consist of members, (consisting of individuals, botanic gardens, corporations and industry organisations, government departments, NGOs etc.), and a national co-ordinating office to carry out day-to-day management of the Network, to draft policy documents and maintain a database of rare or threatened plants in cultivation in Australia and to maintain communication between members by means of a regular newsletter.

It was also intended that an Advisory Board be established to assist the co-ordinating office in developing policy and in maintaining communications, to advise on fund raising and help develop and maintain co-operation between botanic gardens, kindred organisations and land management agencies and to, advise on the operation of the national office. The ANPC Advisory Committee (as it became known) was set up by invitation and an effort was made to attract members who had a wide range of interests and experience in plant conservation and in the industries that might have an interest and impact on Australia's flora. We have listed the members in previous issues of Danthonia but have not previously given readers much information about who and what these people are. So, for the record;

Dr David Aldous represents the Royal Australian Institute of Parks and Recreation (RAIPR). David is a Principal Lecturer at the Victorian College of Agriculture and Horticulture (VCAH)- Melbourne.

Dr Tony Brown is Senior Principal Research Scientist in the Australian Flora Resources and Management Program, Division of Plant Industry, CSIRO.

Dr Mick Brown represents the Australian Forestry Council. Mick is Assistant Chief of the Division of Silvicultural Research and Development, Forestry Commission of Tasmania.

Geoff Farnell represents the Australian Mining Industry Council (AMIC). He has been Executive Officer - Environment and Services with AMIC since 1991 and prior to that was Resident Manager of Parkes Gold Mine, NSW, (a BHP Company), and has held positions as an environmental officer at mines in NSW and the Northern Territory.

Stephen Harris is Senior Botanist with the Tasmanian Parks and Wildlife Service and is responsible for flora conservation in the State. His particular interests are in the flora of the Bass Strait Islands and the ecology of Callitris.

Ratrina Jensz is Senior Project Officer, Endangered Species Unit, Australian Nature Conservation Agency. Katrina is responsible for the co-ordination of plant projects for the Endangered Species Program and is project officer for plant projects in south-east Australia. She is involved in the administration of the En-

dangered Species Protection Act 1992. Katrina is Secretary to the ANZECC Endangered Flora Network and is involved in weed issues.

Dr David Kay represents the Council of Heads of Australian Botanic Gardens. He is Director of the Australian National Botanic Gardens and executive Director, Biodiversity Directorate, Australian Nature Conservation Agency.

Edward McAlister represents the Australian zoo community. Ed is Director of the Adelaide Zoo and was previously Assistant Director of The Botanic Gardens of Adelaide.

Margaret Moore represents the National Threatened Species Network. Margaret is National Co-ordinator for NTSN, a non-government community based network which aims to increase support for protection of threatened species and their habitats throughout Australia.

Professor Henry Nix is chair of the ANPC Advisory Committee and represents the Association of Societies for Growing Australian Plants (ASGAP). He is Director of the Centre for Resource and Environmental Studies (CRES) at the Australian National University.

Dr Bob Parsons is Reader in Botany at La Trobe University, Melbourne. Bob has a particular interest in the conservation of threatened grassland communities.

Rose Turner is Project Officer for the Aboriginal Rural Resource Initiatives Program in the Commonwealth Bureau of Resource Sciences.

AUSTRALIAN NETWORK for PLANT CONSERVATION

ENDANGERED FLORA FACT SHEET

Prostanthera eurybioides F. Muell. (Family Lamiaceae)

Monarto Mintbush

Description

Aromatic shrub to 1.3m high. Leaves about 2mm long, blunt, opposite, stalkless, mostly clustered on branchlets. Branches covered in short hairs. Flowers solitary, about 5-10mm long, 2-lipped, 5-lobed, violet, lower inside white with brownish dots; on short stalks. Fruit - four 1-seeded nutlets, 1-2.5mm long. Flowers mainly August to November, however flowers have been observed in January, March and April.

Habitat

Substrate Shallow red to brown loams and sandy loams associated with outcrops of granite, schist or granodiorite; pH 6-7.

Landform Gentle to steep slopes and rocky outcrops, and undulating plains.

Aspect South to west.

Vegetation Low sparse heathland/shrubland.

Distribution

South Australian endemic. Total of about five hundred plants in two disjunct localities. Major one near Mount Monster in the south-east. The other between Monarto and Murray Bridge. Range is limited. All known populations are small, and restricted to areas which have been largely cleared of native vegetation. Reservation: Over 250 plants located in Mt Monster Conservation Park, and approximately 100 in Heritage Agreement blocks near Monato. Some plants occur on freehold land. (Jusaitis, M. 1994, pers. comm.).

Threats

- · Weeds
- Grazing
- · Land clearance
- Small population size
- · Small area of habitat
- Trampling
- Quarrying
- · Road works



Photograph: Black Hill Flora Centre



Photograph: Black Hill Flora Centre



Projects

Recovery Plan - commenced 1992.

- Objectives 1. Research: To obtain information to assist in making management decisions.
 - 2. Management: To downlist species from endangered to vulnerable.

Criterion To achieve self-sustaining populations of 3000 or more plants in 10 years.

- Strategies 1. Research: Study ecology/biology of plant, distribution, threatening factors, propagation methods, environmental effects on growth and development, mycorrhizal interrelationships.
 - 2. Management: Propagate plants; fencing and weed control; plant re-inforcements and introductions; monitoring.

Project Co-ordinators Dr. Manfred Jusaitis and Birgitte Sorensen, Black Hill Flora Centre, Maryvale Rd, Athelstone, South Australia, 5076.

Collaborators Black Hill Flora Centre, the Society for Growing Australian Plants, South Australian National Parks and Wildlife Service.

Funded by The Endangered Species Program of the Australian Nature Conservation Agency.

Horticultural Information

Being grown at Black Hill Flora Centre in containers and in gardens. Plants grow well for 4-5 years, then often degenerate. Propagates easily from cuttings. Seed difficult to germinate. Currently being researched. (Jusaitis, M. 1994, pers. comm.).

ANPC Members Growing Prostanthera eurybioides

Contact person and address

Dr B. Morley	Society for Growing	Curator
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Botanic Gardens of Adelaide	Australian Plants	Australian National Botanic
North Terrace	Daisy Study Group	Gardens

Adelaide, SA 5000	c/- Esma Salkin	GPO Box 1777
and the state of t		The state of the s

38 Pinewood Dr Canberra, ACT 2601

Mt Waverly, Vic, 3149

Origin of Plants

Wild Cultivated Wild

References

Anon, 1992, 'Recovery plans, endangered plants endemic to South Australia', On the brink! Newsletter of the Endangered Species Program, No. 2, p. 10-11.

Australian Network for Plant Conservation, 1993, The National Endangered Flora Collection, A Conservation Resource, 1st edition, Australian Network for Plant Conservation, Canberra.

Davies, R. J-P. 1992, Threatened Plant Species of the Murray Mallee, Mount Lofty Ranges and Kangaroo Island Regions of South Australia, Conservation Council of South Australia, Adelaide.

Jessop, J.P. & Toelken, H.R. (eds.) 1986, Flora of South Australia, Part III Polemoniaceae-Compositae, 4th edition, South Australian Government Printing Division, Adelaide.

Jusaitis, M. 1991, Recovery Plans - Prostanthera eurybioides, Pterostylis arenicola, Acacia cretacea, Pultenea tricophylla., Australian National Parks and Wildlife Service, Endangered Species Program Project No. 151., Black Hill Flora Centre, Adelaide.

Leigh, J. Boden, R. & Briggs, J. 1984, Extinct and Endangered Plants of Australia, Macmillan, South Melbourne.

Leigh, J.H. & Briggs, J.D. (eds.) 1992, Threatened Australian Plants: Overview and Case Studies, Australian National Parks and Wildlife Service, Canberra.

INetPC



anthonia readers who would like to support the work of the Indonesian Network for Plant Conservation (INetPC) might consider joining the new Network. Individual membership fees for overseas members are a mere \$10 US and organisations may join for \$20 US. Money orders or international drafts should be made payable to INetPC. The ANPC National Office in Canberra can supply a copy of the INetPC membership form on request.

Also available from INetPC are the proceedings of the 1992 Kebun Raya Bogor Conference (reported on in ANPC Newsletter vol.1, no.3). Strategies for Flora Conservation in Asia, edited by Suhirman et al. (1994) is a 360 page volume which explores the potential role of both the public and private sectors in plant conservation in Asia. Based on a gathering of conservationists, researchers, government officials and private sector representatives in the Bogor Botanic Gardens, the contents range from orchid inventories to timber research.

The experiences of botanic gardens in Japan, China, India Singapore and Indonesia, are highlighted alongside contributions from their counterparts in Australia, the UK, the Netherlands, USA and Latin America. Cost of the Proceedings is \$20 US (hardback) or \$12 US (paperback), with a 20% discount to INetPC members. The ANPC National Office can supply order forms on request.

ANPC Regional Groups

Victoria

This report has been supplied by an anonymous informant, (but we know who he is!)

The first meeting of the Victorian Group of ANPC was held on Wednesday, 20 July, 1994. The meeting was attended by what the police described as the usual suspects, although several suspicious people were notably absent. After some discussion, it was agreed that the group should meet 2 to 3-monthly. The proposed format of meetings is as follows:

6-30 - 7-30 networking swap stories, ideas, information 7-30 - 8-00 dinner

8-00 - 8-05 short informal address by one participant designed to stimulate discussion

8-05 - 9-30 ensuing fracas

It was agreed that minutes of meetings will be minimal. Dale Tonkinson (Greening Australia), Adrian Moorrees (VCNR) and Simon Cropper (Botanicus) have agreed to act as coxswains for this ship of fools. Notices of coming meetings will be posted in advance to previous attendees and published in Danthonia when possible. The next meeting will be held at the Carringbush Hotel, Abbotsford, at 6-30 pm on Wednesday 14 September, 1994. Guest Provocateur will be David Cheal.

Please contact Adrian (450 8696), Dale (654 1800) or Simon (311 1315) to let them know if you will be attending or for further information

SE QLD/NE NSW

From Jeanette Mill, (somewhere in Queensland)

About 25 people, including several non-members, attended the first regional meeting of ANPC members in SE Queensland and NE New South Wales which was held on September 1 at Mt Coot-tha Botanic Garden, Brisbane. A wide range of interests and organisations was represented. Brian Cooney took the participants for a tour of the Mt Coot-tha threatened flora collection after the meeting. A list of these plants was also distributed.

It was agreed that there was a need for meetings every 2 - 3 months, and that the venue will rotate, allowing people to see work being done in the region at first hand. The next meeting will be held on Saturday 5 November, 1994, at Limpinwood Gardens Nursery, Limpinwood Valley, via Chillingham, NSW 2484. Arrive from 10 am for an 11 am start. Contact Russell or Sharon Costin, if you wish to attend, on 066-793353. The themes will be propagation and fund-raising. Bring lunch (barbecues available) and a summary of plant conservation work you are involved in.

Jan Tilden, National Threatened Species Network Coordinator for Queensland, is custodian of the membership list for the region. Any contact details for potential participants should be referred to Jan, at PO Box 465, Maleny, Queensland, 4552, phone 074-94 3587, fax 074-94 3506

Diary

The Ecological Society of Australia will hold its AGM and Scientific Meeting at the Araluen Centre, Alice Springs, followed by an open symposium/conference from 28-30 September. This will be preceded on 26-27 September by a Symposium to commemorate the centenary of the Horn Scientific Expedition to Central Australia. Enquiries to Steve Morton or Mark Stafford Smith, ESA 94, PO Box 2111, Alice Springs, NT 0871, phone: 089-500111, fax: 089-529587, email: trevor.hobbs@dwe.au

SGAP Grampians Group will hold its Annual Flower Show at the Pomonal Hall, Halls Gap, Victoria on 24-25 September, 1994. The theme will be "More than just flowers" and will feature flower displays, Koori food display, numerous sales, village market and a photographic display. Please support one of ANPC's member groups.

December 4-9, 1994, International Forest Biodiversity Conference, Conserving biological diversity in temperate Forest ecosystems - towards sustainable management. This international conference will be held in Canberra; the convenor is Dr Tony Norton of the Centre for Resource and Environmental Studies, AustralianNational University, Canberra. The meeting will discuss the latest research and thinking on key issues underpinning a move towards the sustainable management of temperate forest ecosystems. Emphasis will be on approaches for integrated forest planning and management at a landscape level, and specifically, how to enhance biodiversity conservation given a landscape matrix of conservation reserves and areas dedicated for wood production and other land uses. For further information contact: International Forest Biodiversity Conference, C/- ACTS, GPO Box 2200, Canberra, ACT, 2601, telephone: 06-257 3299, fax: 06-257 3256.

March 27 - April 7, 1995

ANPC Plant Conservation

Techniques Training Course.

See page 9 of this issue for more details of this course.

September 25-29,1995, BGCI- 4th International Botanic Gardens Conservation Congress, Perth, WA, Contact: Dr Kingsley Dixon, Kings Park, 09-321 5065, fax 09-322 5064.

Plans are underway for next year's BGCI 4th International Botanic Gardens Conservation Congress, which will be held in Perth. The first official announcement will be available soon. The planning committee is working on a 4½ day conference, Monday to Friday, with a mid-week excursion. There will also be pre- and post-conference tours. Conference week will be "Wildflower Week" in WA.

September 1995, 2nd ANPC National Conference, Perth, WA.Contact: ANPC, 06-2509509

The 2nd ANPC National Conference will be held in as-

sociation with the International Congress. Actual dates of the Conference are still to be decided.

More Network News

In Wellington, New Zealand, a local plant collections network has been established between the Wellington and Otari Botanic Gardens, Victoria University Grounds and the Parks, Operations and Recreation Divisions of the Hutt City Council. This informal network has been established to promote co-operation in several ways.

Regular meetings are arranged, plant material is exchanged, a joint staff training course is being held and a comprehensive collection of threatened New Zealand plants is being assembled.

The Hutt City Council, for example, is currently preparing a joint recovery program with the New Zealand Department of Conservation for Muehlenbeckia astonii (Polygonaceae), a nationally threatened species. The Hutt City Council will propagate and grow North Island populations and the Otari Botanic Garden will propagate and grow South Island populations.

(Source: BGCI Botanic Gardens Conservation News v2, no3, May 1994, and Royal NZ Institute of Horticulture Newsletter, no4, December 1993)

THE AUSTRALIAN NETWORK FOR PLANT CONSERVATION **MEMBERSHIP LIST**

The date (1994/5) indicates that the member has joined or renewed for that year. Addresses and names of contact persons are available from the Na-

Corporate Members

ACT Parks & Conservation Service, (1994)

Australian Forestry Council

Australian Mining Industry Council

Australian Tree Seed Centre, CSIRO

Botanic Gardens of Adelaide, SA (1994)

Albury Botanic Gardens, NSW (1994)

Alcos of Australia Ltd.; WA (1994)

Australian National Botanic Gardens (1994)

Aust. Nature Conservation Agency (1994)

Barcaldine Shire Council (1994)

CSIRO, Division of Plant Industry

Coffs Harbour City Council; NSW (1994)

Conservation & Land Management, WA (1994)

Conservation Commission of the NT (1994)

Eurobodalla Botanic Garden, NSW (1994)

Flecker Botanic Gardens: Old (1994)

George Caley Botanic Garden; NSW

Gladstone Tondoon Botanic Gardens; Qld (1995)

Kings Park and Botanic Gardens; WA (1994)

Kuringai Municipal Council, NSW (1994)

Mt Coot-tha Botanical Gardens; Qld (1994)

NSW-National Parks and Wildlife Service

Norfolk Island Botanic Garden (1994)

North Forest Products; Tas (1994)

Pacific Power, NSW (1994)

Parks Wildlife and Heritage, Tas (1995)

Randwick City Council NSW (1994)

Royal Botanic Gardens, Melbourne, Vic

Royal Botanic Gardens, Sydney; NSW

Royal Tasmanian Botanical Gardens (1994)

Townsville Botanic Gardens; Qld (1994)

Victorian College of Agriculture and Horticulture

Wollongong Botanic Gardens (1994)

Zoological Parks Board of New South Wales (1994)

Zoological Board of Victoria (1994)

International Associates

Botanic Gardens Conservation Intl, UK

Center for Plant Conservation, USA

Honiara Botanic Gardens, Solomon Islands

Kebun Raya Indonesia

National Botanical Institute, South Africa

Rare Plant Consortium, USA

Society for Ecological Restoration, USA

Suva Botanical Gardens, Fiji

Vailima Botanic Gardens, Western Samoa

Other Organisations

Arid Land Botanic Garden, SA

Assn. of Soc. for Growing Aust Plants (1994)

Australian Assn. of Bush Regenerators (1994)

Aust. Trust for Conservation Volunteers (1994)

Bonalbo Central School, NSW

Brunswick Valley Heritage Park, NSW (1994)

Burrendong Arboretum Trust; NSW (1994)

Deakin University, Rusden Campus Library, Vic

Earth Repair Foundation (1994)

Friends of North Coast Regional BG; NSW(1994)

Friends of the Points; Vic 1994)

Greening Australia (ACT) (1994)

Greening Australia (NSW) (1994)

Greening Australia (Vic)

Greening Western Australia (1994)

Hunter Region Botanic Gardens; NSW (1994)

Illawarra Zoological Society, NSW (1994)

Joseph Banks Native Plants Res, NSW (1994)

Merungle Hill Landcare, NSW (1994)

Myall Park Botanic Garden, Qld

Olive Pink Flora Reserve; NT (1994)

Pangarinda Arboretum, SA (1994)

Royal Australian Institute of Parks and Recreation

Royal Geographical Society of Qld (1994)

SGAP - Canberrs Region Inc (1994)

SGAP - Dryandra Study Group (1994)

SGAP - East Hills Group

SGAP - Grampians Group; Vic (1994)

SGAP - Grevillea Study Group

SGAP - Ipswich Branch (1994)

SGAP - Maroondah Inc (1994)

SGAP - New South Wales Ltd.(1994)

SGAP - Newcastle; NSW (1994)

SGAP - North Coast; NSW

SGAP - North Shore: NSW (1994)

SGAP - North West; Tas (1994)

SGAP - Pine Rivers: Old

SGAP - Queensland Region (1994)

SGAP - South Australia Region

SGAP - South West Slopes; NSW

SGAP - Tasmania Region (1994)

Stony Range Flora Reserve, NSW (1994)

Sunraysia Oasis Botanic Gardens (1994) Tasmanian Arboretum Inc (1994)

Threatened Species Network (NT) (1994)

Threatened Species Network (QLD) (1994)

Tumut Ecology Reserve Trust; NSW

Waite Arboretum, Vic

Wildflower Society of Western Australia (1994)

Wildflower Soc. of WA - Mandurah (1994)

World Wide Fund for Nature Australia

Individual Members

Ian Anderson, ACT (1995)

Peter Barrer, ACT (1994)

Stephen Barry, Qld.

Dr Robert Boden, ACT (1994)

Dr Barbara Briggs, NSW (1994)

Dr AHD Brown, ACT (1994)

Douglas Brown (1994)

Kate Brown (1994)

S Brunskill, Vic (1994) Dulcie Buddee, NSW (1994)

P Bundock, NSW (1994)

C Burke, Old

R Burns; Tas (1994)

Dr G Burrows, NSW (1994)

Irene Champion, Old (1994)

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Anne Cochrane, WA (1994)

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I Crawford, ACT (1994)

S Cropper, Vic (1994)

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Stuart Donaldson; ACT (1994)

Max Elliott, NSW

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Paul Foreman (1994) Julie Foster, ACT (1994)

E George; WA (1994)

L Gilfedder: Tas (1994)

Roger Good, NSW (1994) David Gordon; Old

Dr Janet Gorst; Tas (1994)

Robert Gourley, ACT (1994)

Joanne Green, NSW (1994) Scott Green, UK

Barrie Hadlow; ACT (1994)

Joy Haviland, NSW (1994)

Jan Heisler, NSW

Laurel Hemming, Vic

Jill Hickie, Tas (1994)

Peter Hind, NSW

Timothy Ingles, ACT (1994)

Gregory Jackson, ACT (1994)

Susan Johnston, ACT

Kelly Jones, Vic (1994)

Alison Kelly, NSW (1994)

Kingfern Natives; NSW (1995)

Jill Landsberg, ACT (1994)

Limpinwood Gardens Nursery, NSW (1994)

Bill McDonald; Qld (1994)

Alex Mackenzie NSW (1994)

Bob Makinson ACT (1994)

David Mason; NSW (1994)

Maria Matthes, NSW (1994)

Stephen Mattingley, ACT (1994)

Jennifer Meyer, TAS (1994)

Geoffrey Mitchell, NSW (1994)

Judith Moffatt, Qld (1994)

Brian Mole, Vic (1994) Adrian Moorrees, Vic, (1994)

Sharon Nash, NSW

Alexander Nicol, NSW (1994)

Nan Nicholson, NSW (1994)

Lex Nieboer, Vic

Malcolm Noble, NSW (1994)

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Joe Perner NT (1994) Alistair Phillips, Vic (1994)

J Playford, Qld (1994)

K Querengasser, Qld Brian Quinn, Vic

S Rempel, Canada

Brett Robinson NSW (1994)

Esma Salkin: Vic (1994)

Sarah Sharp (1994) Mel Sheppard, ACT (1994)

Marilyn Smith, NSW

Howard Smith, NSW (1994)

Diana Snape, Vic (1994)

JH & I E Story, Qld (1994) D Swift, Tas (1994)

Jane Tarran, NSW

Roy Taylor, USA (1994) Technical Librarian, Qld (1994)

Megan Thomas, Qld (1994)

Phillip Thomas, RBG Edinburgh (1994)

Lyn Thompson NSW (1994)

Rose Turner, ACT Bindi Vanzella, NSW (1994)

Darren Wallace, Vic (1994)

Bruce Wannan, NSW (1996) Chris Ward, NSW (1994)

Matt White, Vic (1994))

T Wilkinson, NSW John Wilkes, ACT (1994)

J & A Willinck, NSW (1994)

John Wrigley; NSW (1995) Martin Zierholtz, Germany (1994)

Donations Received from: The Botanical Bookshop, Canberra John Delpratt

Friends of ANBG Roger Good

Allison Kelly H Smith

J & A Willingk Martin Zierholtz